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08/162,650 12/06/93 SEKIYA

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EXAMINER
227145006

LE.N

ART UNIT PAPER NUMBER

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2108
DATE MAILED:

04/26/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 3/06/95 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☐ Notice of References Cited by Examiner, PTO-892.
- ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
- ☐ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐

Part II SUMMARY OF ACTION

- ☒ Claims 1, 3-12 are pending in the application.
Of the above, claims — are withdrawn from consideration.
- ☒ Claims 2 has have been cancelled.
- ☐ Claims — are allowed.
- ☒ Claims 1, 3-12 are rejected.
- ☐ Claims — are objected to.
- ☐ Claims — are subject to restriction or election requirement.
- ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
- ☐ Formal drawings are required in response to this Office action.
- ☐ The corrected or substitute drawings have been received on —. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
- ☐ The proposed additional or substitute sheet(s) of drawings, filed on —, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
- ☐ The proposed drawing correction, filed —, has been ☐ approved; ☐ disapproved (see explanation).
- ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☒ not been received ☐ been filed in parent application, serial no. —; filed on —.
- ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
- ☐ Other

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EXAMINER'S ACTION

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Part III DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2. Claims 1, 5, 6, 9-11 are rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al. (5,245,361) in view of Cowger et al. (4,931,811).

Kashimura et al. disclose all basic claimed features of the invention of an ink jet recorder comprising a recording head unit 10 (Fig. 17) containing energization part to form ink jet hence suggesting the commonly incorporation of ink passage and nozzles in the head, an ink inlet 312k including filter means 311d, an ink reservoir 312 holding a material 312a infiltrated with ink, a carriage 20 having a base part carrying

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an interconnection pattern 20 for establishing electrical contact with the head and a positioning part 20b (Fig. 5A) for determining the position of the head with respect to the carriage, wherein the head carries a first connection means 311a and a first guide part 311b connecting with a second connection means of elastic seal 312m and a second guide part 312b respectively on the reservoir to form a detachable engagement with each other for generating ink flow to the head from the reservoir.

Kashimura et al. do not disclose the filter to be made of stainless steel, a vent on the reservoir closed by a removable seal member of a screw and of a rigid projection.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a filter of stainless steel material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Nevertheless, Cowger et al. disclose an ink jet recorder wherein a wire mesh filter 26 is utilized in order to prevent air from an ink reservoir being drawn down to a recording head; therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate the wire mesh filter of Cowger et al. into Kashimura et al. for the purpose of

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preventing air bubbles and hence dust particles from entering the recording head, as recognized by both teachings.

Cowger et al. also disclose a vent 30 closed by a removable seal member for supplying and replenishing air to the ink reservoir; moreover, to modify the seal member to be a screw or a rigid projection would have been obvious and only involve routine skill in the art to obtain an equivalent element of a removable seal member as taught by Cowger et al. Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate the vent with the removable seal member of Cowger et al. in Kashimura et al. for the purpose of providing ambient air communication to the ink reservoir.

3. Claims 3, 4 are rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al. in view of Cowger et al. as applied to claim 1 above, and further in view of Kurata et al. (5,138,342).

Kashimura et al. as modified by Cowger et al. further do not disclose the carriage including a cover part having an interconnection pattern, mounted on and rotatable with respect to a base part, wherein the cover part urges the recording head upon the base part establishing electrical contact with the head.

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Kurata et al. disclose an ink jet recorder comprises a carriage 2 (i.e. Fig. 8A) including a lever mounted on and rotatable through shaft 9 with respect to a base part of the carriage for urging a recording head onto the base, wherein the base part carrying a positioning part 2c for forming engagement with the head on which nozzle is formed, and a side part of the carriage carrying an interconnection pattern 6 for establishing electrical contact with the head.

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate a lever as taught Kurata et al. functioning as a cover to a base part of the carriage as claimed for the purposes of urging the head onto the carriage and causing electrical contact between the head and the carriage. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to position the interconnection pattern on the lever or cover part of the carriage and to position a correspondent pattern on the recording head of Kurata et al. for the purpose of joining the patterns for electrical connection, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

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4. Claims 7, 8 are rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al. in view of Cowger et al. as applied to claim 1 above, and further in view of Hildenbrand et al. (3,708,798).

Kashimura et al. as modified by Cowger et al. further do not disclose a tubular member having a sharp point for breaking a seal membrane of an ink reservoir.

Hildenbrand et al. disclose an ink jet recorder comprising a needle 41 or a tubular member having sharp point for breaking a seal membrane 42 of an ink reservoir in order to generate ink flow to a recording head. Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate the utilization of the tubular member for breaking the seal membrane as taught by Hildenbrand et al. in the pertinent art of Kashimura as modified for the purpose of establishing in flow for recording operation.

5. Claim 12 is rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al.

Kashimura et al. disclose the claimed invention of a method for recording an image comprising the steps of mounting a recording head element or unit 311 to an ink reservoir 312 such that ink in the reservoir is supplied to the head unit (col. 18, ll. 23-27) and breaking a seal member 312m of the reservoir such that an interior space of the reservoir communicates with an

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exterior of the reservoir, except for the step of mounting the reservoir upon the head unit.

However, it would have been an obvious matter of design choice to mount the reservoir upon the head unit in the teaching of Kashimura et al., since applicant has not disclosed that mounting the reservoir upon the head unit solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the head mounting upon the reservoir as taught by Kashimura et al. for the purpose of supplying ink to the head unit for recording operation.

Response to Amendment

6. Applicant's arguments filed 3/06/95 have been fully considered but they are not deemed to be persuasive.

In response to Applicant's argument that Kashimura et al. do not appear to disclose an ink reservoir detachably mounted with a recording head but disclose a unitary disposable unit of ink tank and recording head unit; the Examiner disagrees. As stated in the rejection above, Fig. 17 of Kashimura et al. disclose a head carrying a first connection means 311a and a first guide part 311b respectively connecting with a second connection means 312m and a second guide part 312b of an ink reservoir (col. 17, ll. 59 to col. 18, ll. 49), hence Kashimura et al. teaching meets the

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feature of a detachable ink reservoir and associated elements as claimed.

In response to Applicant's piecemeal analysis of the references, i.e. Cowger et al. do not disclose the detachable ink reservoir feature, one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references wherein Cowger et al. teach utilization of a wire mesh filter for the purpose of preventing foreign matters entering the recording head.

In response to Applicant's piecemeal analysis of the references, i.e. that Kurata et al. and Hildenbrandt et al. do not disclose the detachable ink reservoir feature, this argument has been traversed above in view of Fig. 17 of Kashimura wherein the rejections are based on combinations of references.

Applicant's argument with respect to claim 12 has been traversed in the rejection above in view of Kashimura et al. disclosing the basic claimed method steps.

Conclusion

7. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

It is requested that Applicant submits the Japanese Patent Publications disclosed on pg. 2 of the specification in order to assist in the examination of the present application.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Le whose telephone number is (703) 308-0750.

N.L.
April 18, 1995



N. Le
Patent Examiner
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